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		EXAMINER		
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		ART UNIT		PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/617,186

Applicant(s)

HAGIWARA, HIDEKI

Examiner

Devona E. Faulk

Art Unit

2615

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 November 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-7,9-15 and 17-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☒ Claim(s) 1,3-7,9-15 and 17-22 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. The applicant has amended the claims in an attempt to overcome the 112 2nd rejection set forth however the examiner has determined that the specification lacks antecedent basis for some of the claim language.
2. The examiner has made an attempt to resolve the case by calling the applicant's representative asking to be provided where the information is disclosed in the specification. The examiner has not received a response.
3. Claims 2,8 and 16 are cancelled.

Claim Objections

4. Claims 1,11,15,17 and 19 are objected to because of the following informalities: Claims 1,11,15,17 and 19 recite adjusting, for each group, an amplification gain of all amplifiers involved in the same group according to the detected maximal signal level such as to decrease the amplification gain at the maximal signal level increases.. Appropriate correction is required.

The specification essentially discloses determining a maximum for a group and determining a common multiplier signal according to this maximum detected signal and not decreasing the amplification rate as based on the maximum signal detected as recited in the claims.

Specification

5. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: Claims
6. Claims 1,11,15,17 and 19 recite adjusting, for each group, an amplification gain of all amplifiers involved in the same group according to the detected maximal signal level such as to decrease the amplification gain at the maximal signal level increases.
7. The specification lacks antecedent basis for the "adjusting... according to the detected maximal signal level as to decrease the amplification gain as the maximum signal level increases. The specification discloses, on page 18, paragraph 0024-poage 22, paragraph 00229' that

*In FIG. 8(a), the reference numeral 60 denotes an absolute value and maximum value detection unit that holds a maximum value of absolute values of the input signals L.sub.H, I.sub.RH, I.sub.LSH, I.sub.RSH, I.sub.CH, and I.sub.LFEH within a specified time period. This held value becomes the maximum value of respective signal levels (envelopes) for the six signals. **The reference numeral 70 denotes a gain control unit that determines a multiplier gain, i.e., a multiplier signal using the abovementioned maximum value as an input level according to a characteristic curve similar to that of FIG. 4.** The reference numeral 80 denotes an attack release control unit that controls a rise and a fall of the multiplier signal based on a time constant determined by the operation device 530 and generates multiplier signals G.sub.LH, G.sub.RH, G.sub.LSH, G.sub.RSH, G.sub.CH, and G.sub.LFEH (all six signals assigned the same value) in the multipliers 10, 11, 12, 13, 14, and 15. The above-mentioned delay units 20 through 25 use a constant value as the delay time that is equivalent to a delay time required for detection of the maximum signal level as mentioned above.*

*FIG. 8(b) shows a configuration of a gain determination section 50b for "KEY_LINK2". In this case, the gain determination section comprises a gain determination section 51 to select five signals I.sub.LH, I.sub.RH, I.sub.LSH, I.sub.RSH, and I.sub.CH and a gain determination section 52 to select the I.sub.LFEH signal. **The gain determination section 51 detects the maximum signal level value from these five signals, determines a common multiplier***

signal according to this maximum value, and assigns appropriate values to the multiplier signals G.sub.LH, G.sub.RH, G.sub.LSH, G.sub.RSH, and G.sub.CH. The gain determination section 52 detects the maximum signal level value for the low-band signal I.sub.LFEH to determine the multiplier signal G.sub.LFEH.

FIG. 8(c) shows a configuration of a gain determination section 50c for "KEY_LINK3". In this case, the gain determination section 50c comprises a gain determination section 53 to select three signals I.sub.LH, I.sub.RH, and I.sub.CH, a gain determination section 54 to select signals I.sub.LSH and I.sub.RSH, and a gain determination section 55 to select the signal I.sub.LFEH. **The gain determination section 53 detects the maximum signal level value from the three signals I.sub.LH, I.sub.RH, and I.sub.CH, determines a common multiplier signal according to this detected value, and assigns appropriate values to the multiplier signals G.sub.LH, G.sub.RH, and G.sub.CH.** The input signals I.sub.LSH and I.sub.RSH determine a common signal for the multiplier signals G.sub.LSH and G.sub.RSH. The input signal I.sub.LFEH determines a value for the multiplier signal G.sub.LFEH.

FIG. 8(d) shows a configuration of a gain determination section 50d for "KEY_LINK4". In this case, the gain determination section 50d comprises a gain determination section 56 to select the two signals I.sub.LH and I.sub.RH, a gain determination section 57 to select the signal I.sub.CH, a gain determination section 58 to select the signals I.sub.LSH and I.sub.RSH, and a gain determination section 59 to select the signal I.sub.LFEH. **The gain determination section 56 detects the maximum signal level value from the two signals I.sub.LH and I.sub.RH, determines a common multiplier signal according to this detected value, and assigns appropriate values to the multiplier signals G.sub.LH and G.sub.RH.** The other signals I.sub.LSH and I.sub.RSH determine a common value for the multiplier signals G.sub.LSH and G.sub.RSH. The signal I.sub.CH determines a value for the multiplier signal G.sub.CH. The signal I.sub.LFEH determines a value for the multiplier signal G.sub.LFEH.

First, the operation device 530 and the like are used to specify parameters such as the key link KEY_LINK, the threshold Th, the RATIO, the level values LOW_GAIN, MID_GAIN, and HI_GAIN for the corresponding frequency bands, the attack time ATTACK, and the release time RELEASE. When the signals are input, gains for respective frequency bands are determined by the gain determination sections 50, 51, and so on corresponding to the input channels selected by the key link. **When KEY_LINK1 is selected for high-frequency components, for example, the absolute value and maximum value detection unit 60 peak-holds the maximum value of the input signals within a specified time period. The peak-held value is the maximum value of signal levels (envelopes) of the six input signals. If the peak-held value is smaller than the threshold value Th defined by the operation device 530, the gain control unit 70 assigns the level value HI_GAIN unchanged as the normal gain NRG as shown in FIG. 4 to the multiplier signal applied to the multipliers 10, 11, 12, 13, 14, and 15. If the peak-held value exceeds the threshold value Th, the normal gain NRG is corrected or adjusted so that the excess level is suppressed in accordance with the RATIO as shown in FIG. 4. The corrected value is assigned to the multiplier signal. The similar process is executed for the low-frequency and medium-frequency components. Specifying the "KNEE" parameter provides a value for the multiplier signal corresponding to the smoothed gain**

characteristic. That is to say, when the peak-held value is near the threshold Th , the multiplier signal is assigned a value with the smoothed gain characteristic.

At this time, a time difference occurs until detection of the maximum value for the input signals. Accordingly, the delay units 20, 21, 22, 23, 24, and 25 delay the time until the input signal is supplied to the multipliers 10, 11, 12, 13, 14, and 15. On the other hand, the attack release control unit 80 adjusts a rise and a fall of the maximum value for the detected input signal. After the input signal level exceeds the threshold value Th , the attack time ATTACK determines a response until the beginning of compression and is set to the range from several tens of microseconds to approximately 100 milliseconds. After the input signal level goes below the threshold Th , the release time RELEASE determines the time to release the compression and resume the normal gain, and is set to the range from several milliseconds to approximately several seconds.

(2) While the embodiment detects the maximum value from absolute values of the input signals to find the multiplier signal, the present invention is not limited thereto. It may be preferable to find the multiplier signal (amplification) using a value found by integrating absolute values of the input signals or using a square integration value of the input signals.

The specification essentially discloses determining a maximum for a group and determining a common multiplier signal according to this maximum detected signal and not decreasing the amplification rate as based on the maximum signal detected as recited in the claims.

Conclusion

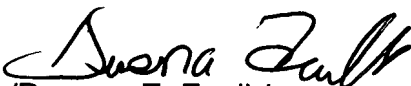
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Devona E. Faulk whose telephone number is 571-272-7515. The examiner can normally be reached on 8 am - 5 pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian Chin can be reached on 571-272-7848. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


/Devona E. Faulk/
Examiner
Art Unit 2615
2/18/2008